

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

0
Sn
6.2

WATER SUPPLY OUTLOOK FOR ARIZONA

PROCUREMENT SECTION
CURRENT SERIAL RECORDS

MAR 7 '74

U.S. DEPT. OF AGRICULTURE
NAT'L AGRIC. LIBRARY
SERIALIZED



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

SALT RIVER VALLEY WATER USERS ASSOCIATION

and

ARIZONA AGRICULTURAL EXPERIMENT STATION

AS OF
FEB. 15, 1974

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

*Cover Photo: Snow Surveyors near Ship Creek,
Alaska snow course.*

U.S. GPO 34-702-11

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR ARIZONA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D C.

|||||
Released by

GEORGE C. MARKS
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
PHOENIX, ARIZONA

In Cooperation with

RICHARD K. FREVERT
DIRECTOR
ARIZONA AGRICULTURAL
EXPERIMENT STATION

KARL F. ABEL
PRESIDENT
SALT RIVER VALLEY WATER
USERS ASSOCIATION

|||||
Report prepared by

RICHARD W. ENZ, Snow Survey Supervisor

SOIL CONSERVATION SERVICE
ROOM 6029 FEDERAL BUILDING
PHOENIX, ARIZONA 85025



ARIZONA WATER SUPPLY OUTLOOK

FEBRUARY 15, 1974

Above average water supplies are predicted for all areas served by storage reservoirs. Runoff from Arizona watersheds will be well below average, so some shortages may occur in areas depending on direct diversions.

SNOW COVER

The snowpack is gradually decreasing as no significant storm activity has occurred for the last three weeks. Above 8,000 feet the snow is holding well, but at the lower elevations steady slow melting continues. Snow cover varies from 133% of average on the Verde Watershed to 55% on the Gila, with the Salt and Little Colorado at about 90% of average.

PRECIPITATION

Precipitation has been very erratic this winter. Following four very dry months, November precipitation was above average. Since then, however, only one wet period has occurred. There is also more variation within the state than usual, ranging from near normal (total precipitation since November 1) on parts of the Salt and Verde to half of normal on the Gila Watershed.

SOIL MOISTURE

Soil moisture is increasing at the lower elevations as melt occurs, but in the high water-yielding areas soils are still very dry.

RESERVOIR STORAGE

Above average water supplies are in storage in all major reservoirs due to carryover from last year. Salt River Project reservoirs, presently containing 74% of capacity, are 25% above average for this date. San Carlos, Lake Pleasant and Lyman Reservoir contain one and one-half to three times average amounts. The Colorado River reservoirs also contain much above average storage, at 75% of capacity.

STREAMFLOW AND WATER SUPPLY

All Arizona streamflow forecasts have been reduced as normal precipitation has not occurred since the previous forecast. Expected runoff yields range from 30% of average on the Gila River to 65% on the Verde.

On the Colorado River, however, conditions are much better. The streamflow forecast of almost nine million acre-feet at the inflow to Lake Powell is 30% above average.

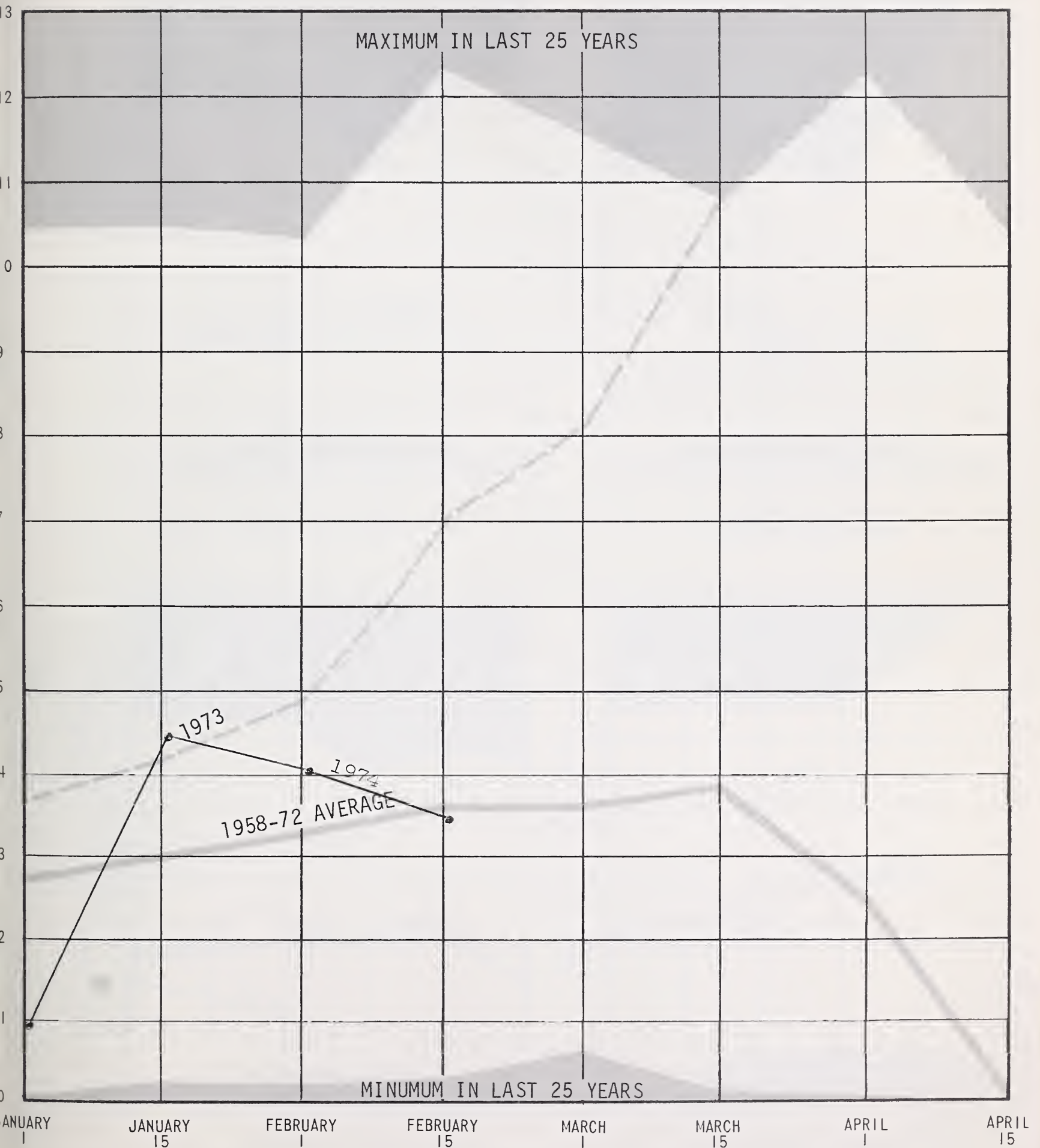
With reservoir storage above average, good water supplies are predicted for all areas except those depending on direct diversion. These areas will receive below normal water supplies this year.

STREAMFLOW FORECASTS ABOUT FEBRUARY 15, 1974

STREAMFLOW FORECASTS	ABOUT FEBRUARY		THIS YEAR		PAST RECORD	
	15, 1974					
	BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
Thousand Acre Feet		Percent of Average	Last Year		Average †	
<u>SALT RIVER DRAINAGE</u>						
Salt near Roosevelt	147	54	Feb-May	1,151.5	272.1	
Tonto Creek near Roosevelt	15	47	Feb-May	215.6	31.6	
Verde River above Horseshoe	98	65	Feb-May	739.9	150.4	
Total Salt River Project Streams	260	57	Feb-May	2,107.0	454.1	
<u>GILA RIVER DRAINAGE</u>						
Gila River at Bylas	15	18	Feb-May	511.1	83.0	
Gila River near Gila	20	42	Feb-May	183.5	47.4	
Gila River near Solomon	37	30	Feb-May	561.9	125.2	
Gila River near Solomon	15	32	March	167.4	46.2	
Gila River near Virden	19	30	Feb-May	260.7	62.5	
Frisco River at Clifton	20	32	Feb-May	288.8	63.0	
Frisco River at Glenwood	7	25	Feb-May	149.7	27.7	
<u>LITTLE COLORADO RIVER DRAINAGE</u>						
Little Colo. River above Lyman Dam	5	47	Feb-June	51.4	10.6	
<u>GRANITE CREEK DRAINAGE</u>						
Granite Creek	1.1	---	Feb-May	---	---	
Willow Creek	.4	---	Feb-May	---	---	
<u>MIMBRES RIVER DRAINAGE</u>						
Mimbres River near Mimbres	1.4	38	Feb-May	15.0	3.7	
<u>COLORADO RIVER DRAINAGE</u>						
Virgin River nr. Littlefield	50	116	Apr-June	208.3	43.2	
Colorado River -- Lake Powell Inflow (Issued by SCS, Utah)	6,927	130	Apr-July	---	6,881	
The Gila River nr. Solomon is expected to remain above 100 cfs until 4/20						
† Based on the 15-year period,						



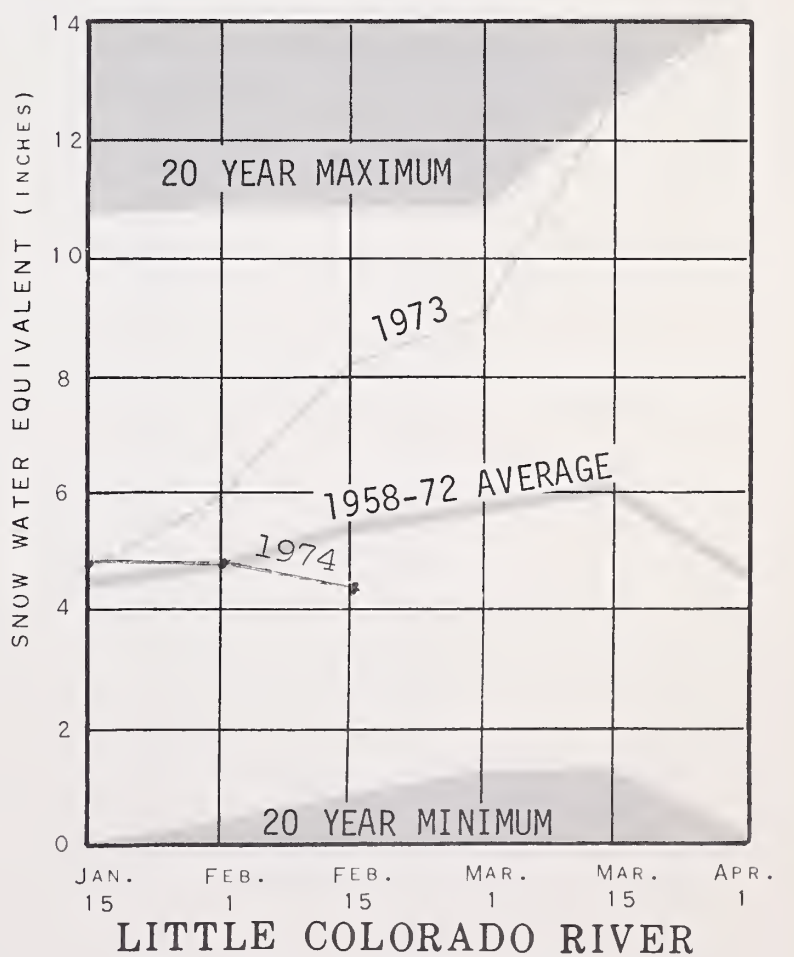
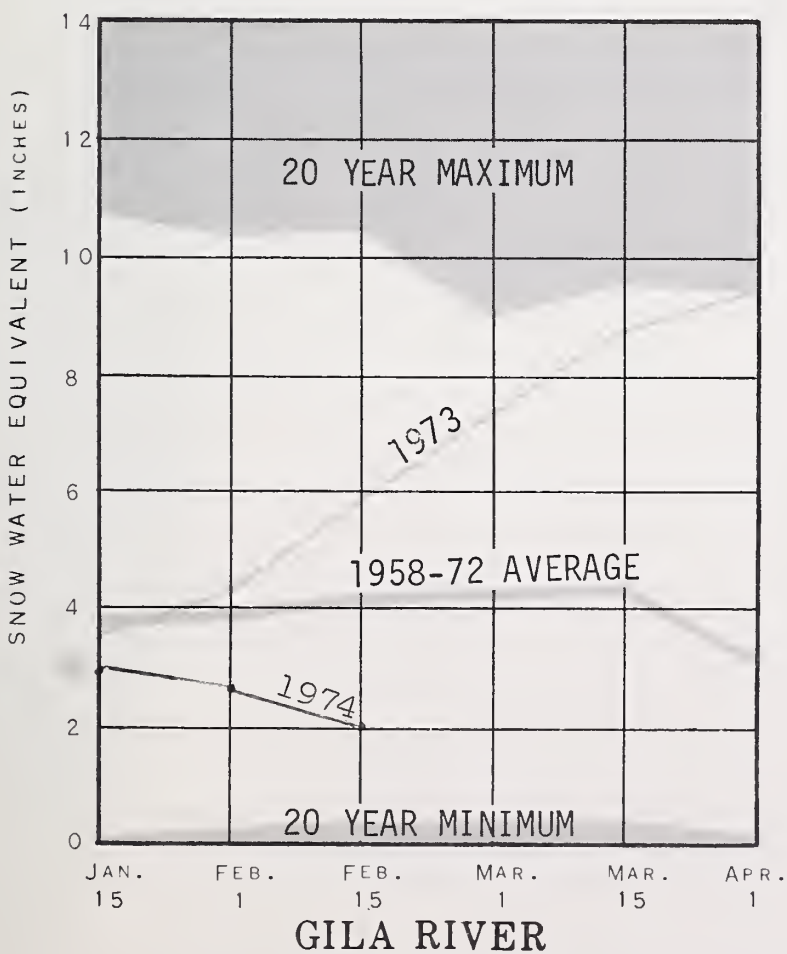
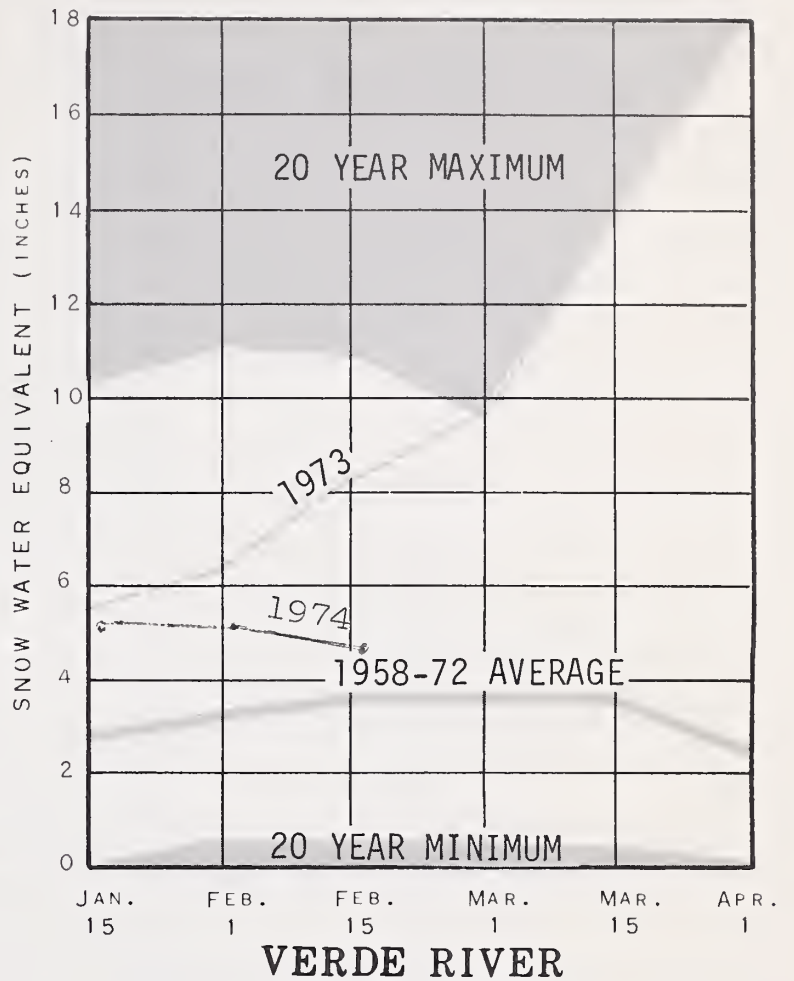
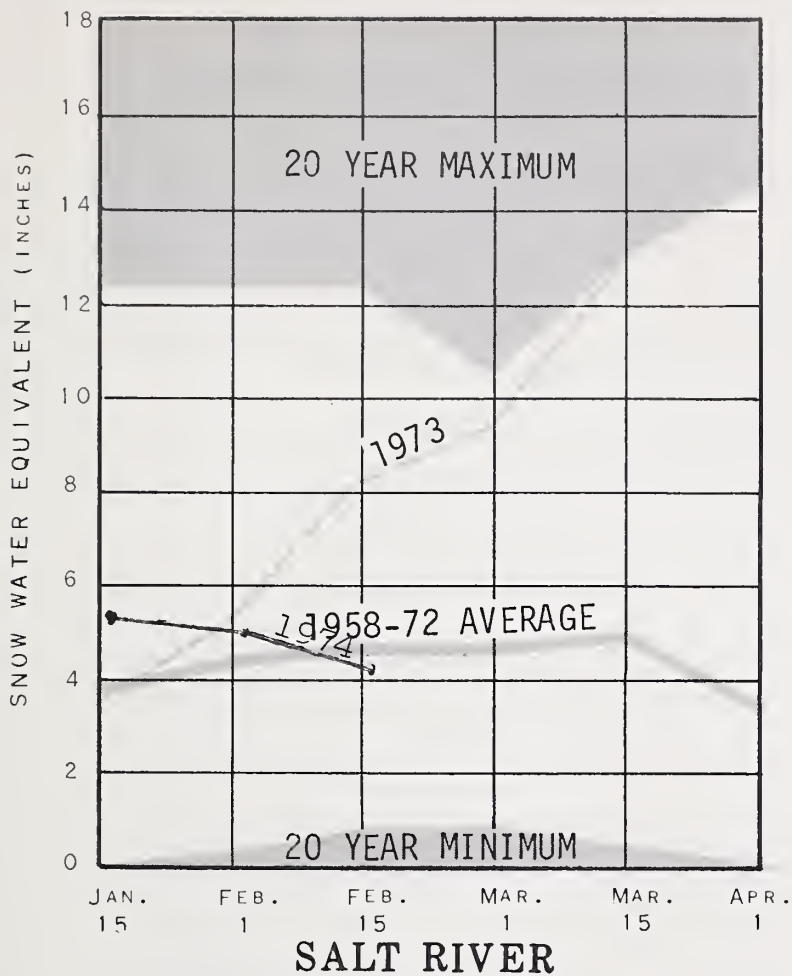
AVERAGE SNOW COVER ARIZONA 1974



- 4 -
This graph represents the average snow water content on eleven selected snow courses on Arizona Sub-Watersheds.



1974 WATERSHED SNOW COVER





SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

ABOUT FEBRUARY 15, 1974

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF:	
		Last Year	Average
Gila	10	38	55
Salt	10	53	92
Verde	10	58	133
Little Colorado	5	57	87
- 6 -			



WATER SUPPLY INVENTORY
SALT RIVER VALLEY SYSTEM

FEBRUARY 15, 1974

IN ACRE-FEET

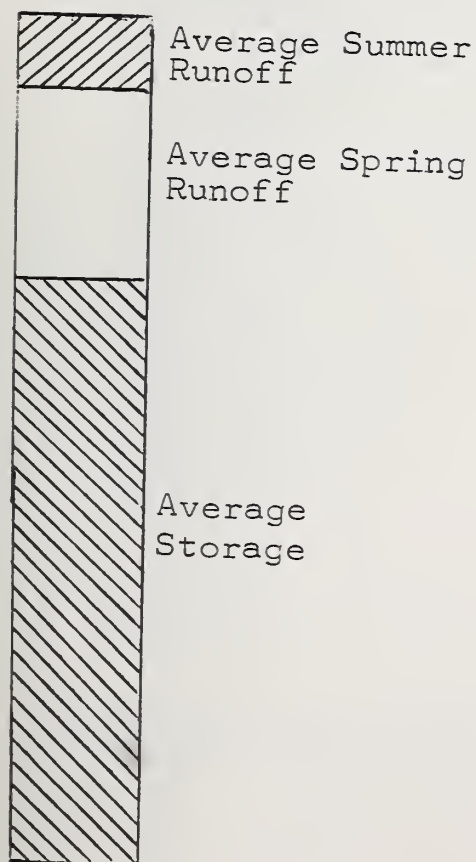
3,000,000

AVERAGE SUPPLY
ON FEBRUARY 15

2,500,000

ANTICIPATED 1974 SUPPLY *

2,000,000

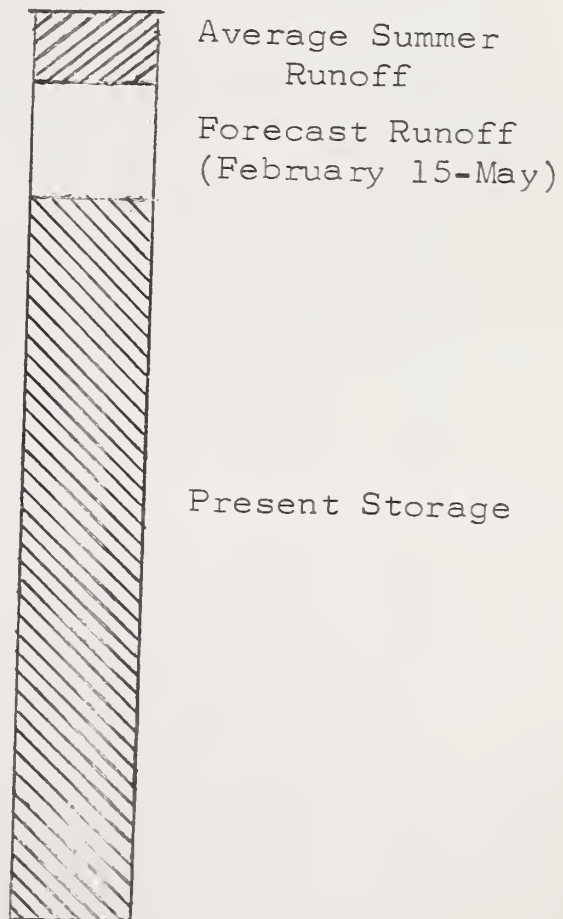


1,500,000

1,000,000

500,000

0



Based on Present Storage + Forecast Spring Runoff + Average Summer Runoff

THE
JOURNAL OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE
OF GREAT BRITAIN AND IRELAND
PUBLISHED BY THE
EDUCATIONAL SOCIETY

1907

ARTICLE	AUTHOR	PAGE
The Evolution of the Human Brain	PROF. H. SPENCER	1
The Evolution of the Human Mind	DR. J. H. SPENCER	15
The Evolution of the Human Soul	MR. J. H. SPENCER	31
The Evolution of the Human Body	MR. J. H. SPENCER	47
The Evolution of the Human Character	MR. J. H. SPENCER	63
The Evolution of the Human Society	MR. J. H. SPENCER	79
The Evolution of the Human Civilization	MR. J. H. SPENCER	95
The Evolution of the Human Culture	MR. J. H. SPENCER	111
The Evolution of the Human Art	MR. J. H. SPENCER	127
The Evolution of the Human Science	MR. J. H. SPENCER	143

SNOW

ABOUT FEBRUARY 15, 1974

SNOW		ABOUT FEBRUARY 15, 1974		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)			
NAME	Elevation				Last Year	Average †		
<u>GILA RIVER</u>								
Bear Wallow	8100	2/14	4	1.7	2.1	4.7		
Beaver Head	8000	2/15	3	1.0	4.8	3.2		
Coronado Trail	8000	2/13	3	0.6	4.3	2.8		
Emory Pass #1 *	7800	2/14	0	0.0	1.7	0.2**		
Emory Pass #2 *	7800	2/14	0	0.0	2.8	1.0**		
Frisco Divide	8000	2/14	5	1.2	4.7	2.4		
Hannagan Meadows *	9090	2/15	25	6.7	13.0	8.0**		
Hummingbird (A)	10550	2/14	20	6.2	18.7	12.4**		
McKnight Cabin * (A)	9300	2/14	0	0.0	6.8	3.5**		
Mogollon	7000	2/12	0	0.0	0.7	1.9		
Nutriosos	8500	2/13	2	0.6	3.4	1.9		
Redstone Trail	8600	2/12	14	4.2	8.0	7.2**		
Rose Canyon	7300	2/14	1	0.1	2.3	3.2		
Silver Creek Divide	9000	2/12	19	5.5	11.7	10.7**		
State Line	8000	2/14	8	2.6	5.4	2.5		
Whitewater (A)	10750	2/14	33	11.3	21.6	14.9**		
<u>VERDE RIVER</u>								
Baker Butte	7300	2/14	22	8.1	11.0	5.7**		
Baker Butte #2	7700	2/14	34	11.4	16.1	---		
Camp Wood	5700	2/13	1	0.3	1.3	0.5		
Chalender *	7100	2/14	13	3.9	6.0	2.5		
Copper Basin Divide	6720	2/14	5	1.8	4.2	2.0**		
Fort Valley	7350	2/14	6	1.9	5.6	2.0		
Gaddes Canyon	7600	2/14	18	5.4	9.2	4.2		
Happy Jack	7630	2/14	15	5.2	9.5	3.1		
Iron Springs *	6200	2/14	0	0.0	0.1	0.6		
Mingus Mountain	7100	2/14	0	0.0	1.6	1.2		
Mormon Lake *	7350	2/14	16	5.5	9.9	3.0		
Mormon Mountain	7500	2/14	19	6.9	11.5	3.8		
Newman Park	6750	2/14	8	2.7	6.7	1.8**		
Snow Bowl #1	10260	2/14	28	8.6	13.6	8.1**		
Snow Bowl #2	11000	2/14	42	12.6	23.5	14.0**		
White Horse Lake Jct.	7150	2/14	10	2.9	7.0	2.6**		
White Spar	6000	2/14	0	0.0	1.3	0.7**		
<u>LOWER COLORADO RIVER</u>								
Bill Williams Int.	8550	2/14	27	8.3	14.8	6.5**		
Bill Williams Summit	8950	2/14	33	9.9	16.5	9.1**		
Bright Angel	8400	2/14	26	7.4	14.3	---		
Chalender *	7100	2/19	13	3.9	6.0	2.5		
Fort Valley	7350	2/14	6	1.9	5.6	2.0		
Grand Canyon	7500	2/14	0	0.0	7.3	1.6		
Williams Ski Run	7720	2/14	26	7.7	10.8	5.5**		

† 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation; water content estimated.

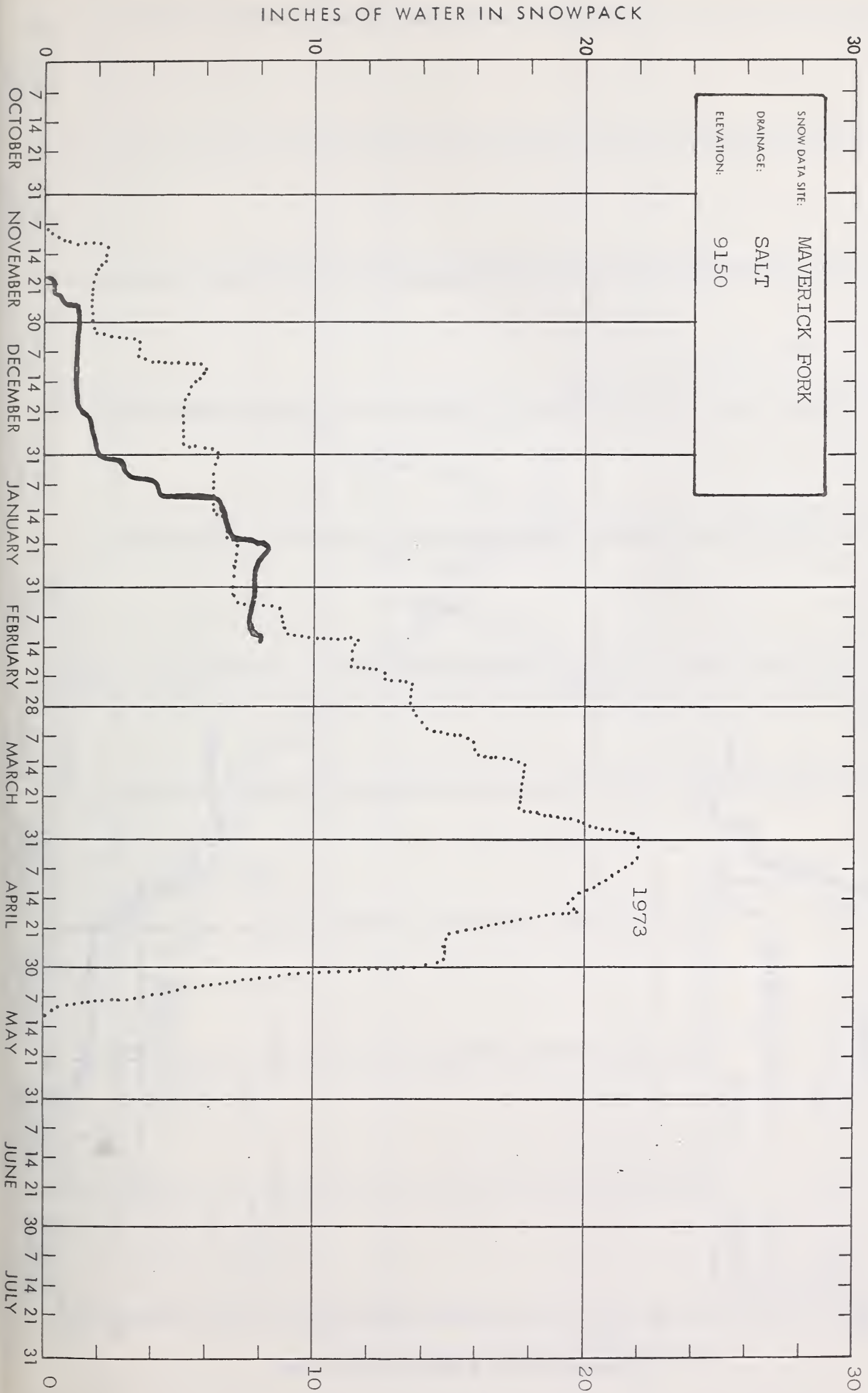


SNOW ABOUT FEBRUARY 15, 1974

SNOW ABOUT FEBRUARY 15, 1974		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average †
<u>SALT RIVER</u>						
Baldy *	9125	2/13	20	5.9	9.3	6.2
Beaver Head	8000	2/15	3	1.0	4.8	3.2
Canyon Creek	7500	2/13	14	5.4	7.9	2.8
Canyon Point	7600	2/13	17	5.8	8.9	3.0**
Coronado Trail	8000	2/13	3	0.6	4.3	2.8
Forest Dale	6430	2/14	1	0.5	4.5	1.1
Ft. Apache	9160	2/13	23	6.1	9.0	6.7
Hannagan Meadows	9090	2/15	25	6.7	13.0	8.0**
Hawley Lake	8300	2/14	23	7.9	11.1	5.4**
Heber	7600	2/13	12	4.7	8.8	3.2
Maverick Fork	9050	2/13	27	7.6	11.5	7.4
McNary	7200	2/14	8	2.7	6.5	2.6
Milk Ranch	7000	2/14	4	1.6	3.9	1.7
Mt. Ord (A)	11000	NO SURVEY			23.1	19.0**
Nutriososo *	8500	2/13	2	0.6	3.4	1.9
Smith Cienega (A)	9850	NO SURVEY			17.9	---
Sunrise Summit	10600	2/14	39	11.8	16.2	---
Wilson Lake	9000	2/14	31	7.8	12.6	9.2**
Workman Creek	6900	2/13	20	7.5	10.1	5.2
<u>LITTLE COLORADO RIVER</u>						
Baldy	9125	2/13	20	5.9	9.3	6.2
Canyon Creek	7500	2/13	14	5.4	7.9	2.8
Canyon Point	7600	2/13	17	5.8	8.9	3.0**
Cheese Springs	8600	2/13	20	5.2	8.2	7.1**
Forest Dale	6430	2/14	1	0.5	4.5	1.1
Ft. Apache	9160	2/13	23	6.1	9.0	6.7
Fort Valley	7350	2/14	6	1.9	5.6	2.0
Happy Jack *	7630	2/14	15	5.2	9.5	3.1
Heber	7600	2/13	12	4.7	8.8	3.2
Inner Basin #1	10100	NO SURVEY			---	---
Inner Basin #2	9750	NO SURVEY			---	---
McNary	7200	2/14	8	2.7	6.5	2.6
Mormon Lake	7350	2/14	16	5.5	9.9	3.0
Mormon Mountain	7500	2/14	19	6.9	11.5	3.8
Nutriososo	8500	2/13	2	0.6	3.4	1.9
Snow Bowl #1	10260	2/14	28	8.6	13.6	8.1**
Snow Bowl #2	11000	2/14	42	12.6	23.5	14.0**
Wilson Lake	9000	2/14	31	7.8	12.6	9.2**
† 1958-72 15-year period. (*) Adjacent drainage. (**) 1958-72 Adjusted Average. (A) Aerial observation; water content estimated.						
- 9 -						

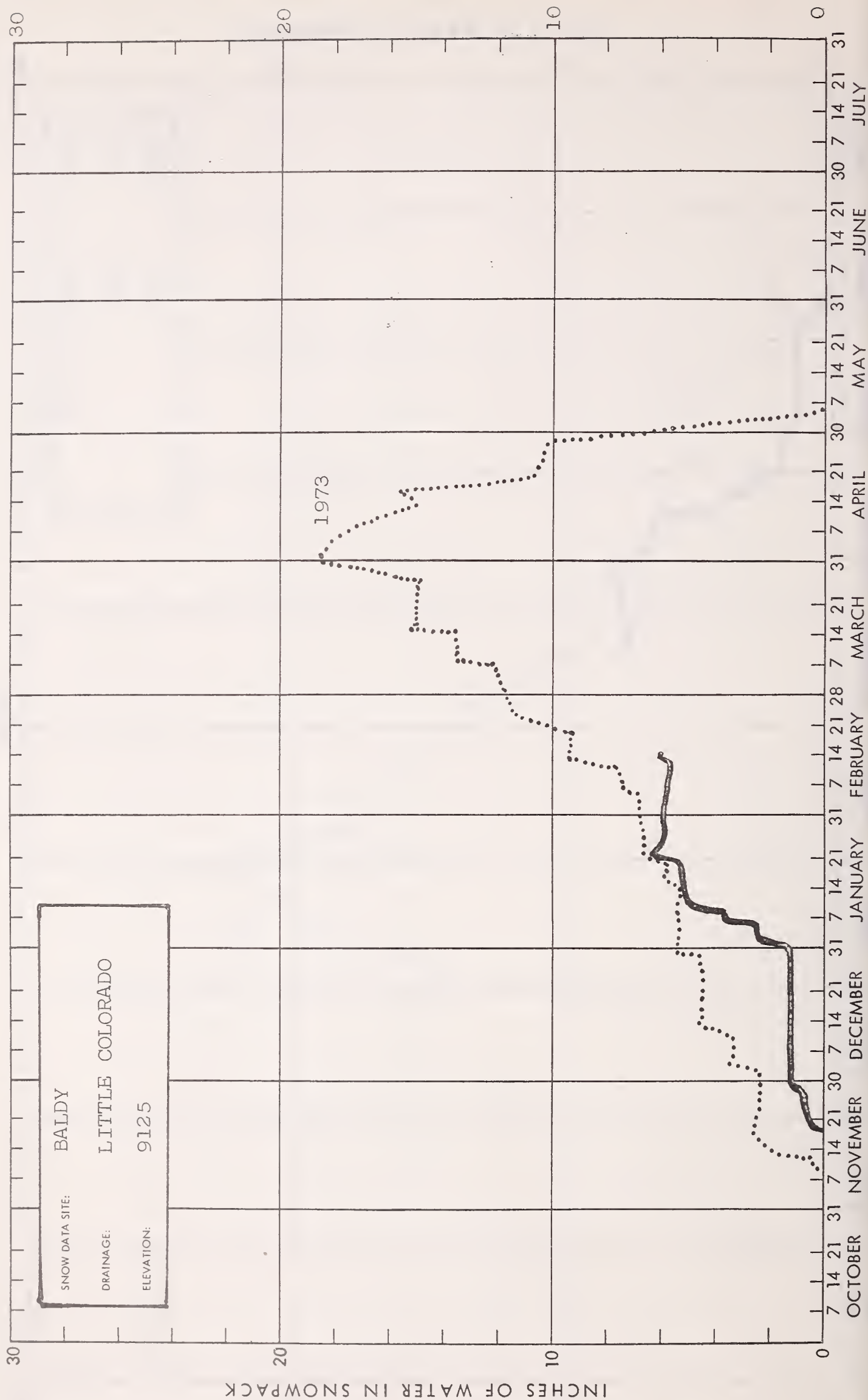


+

SNOW PILLOW DATA
1974

+

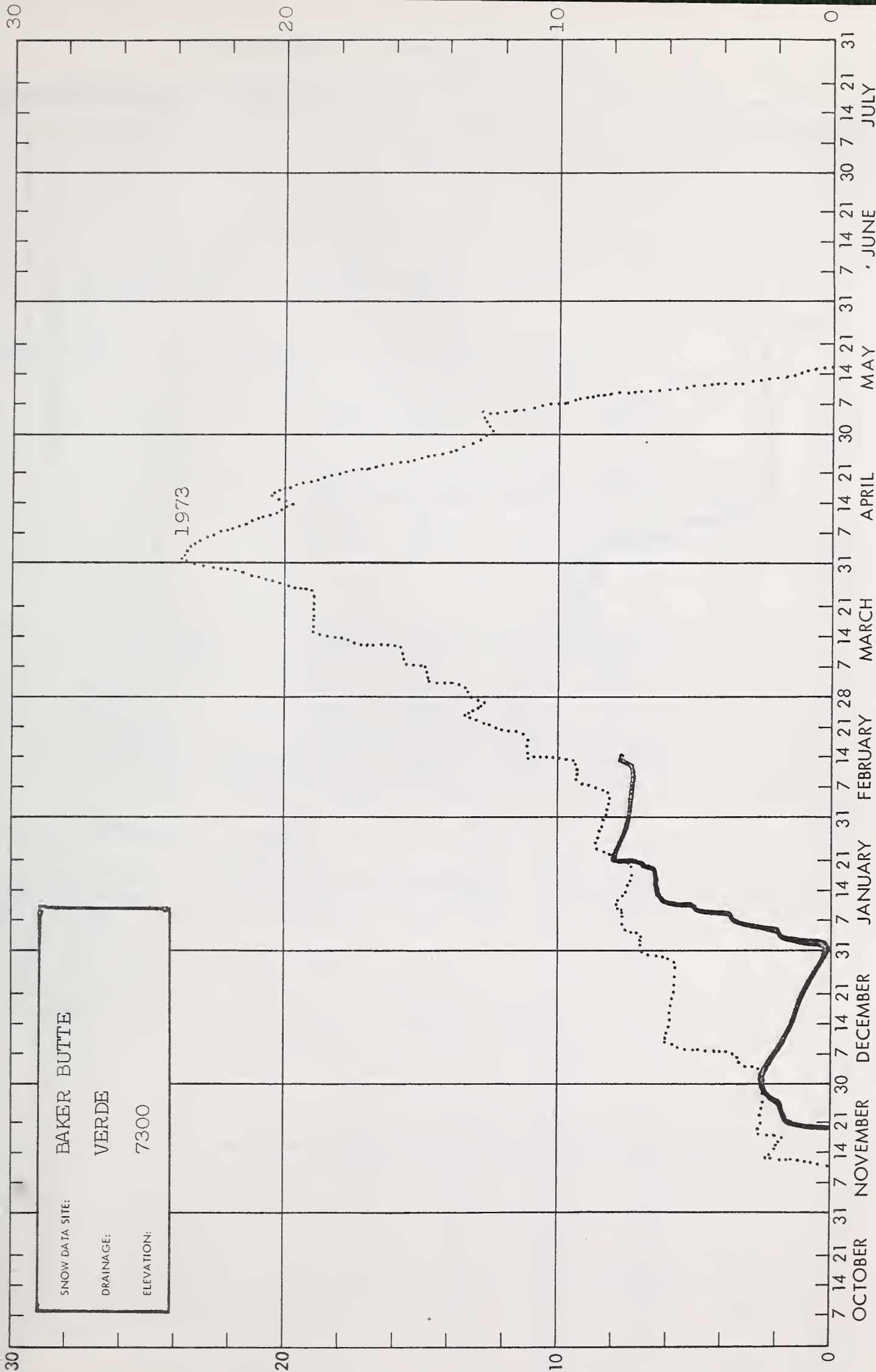
SNOW PILLOW DATA 1974



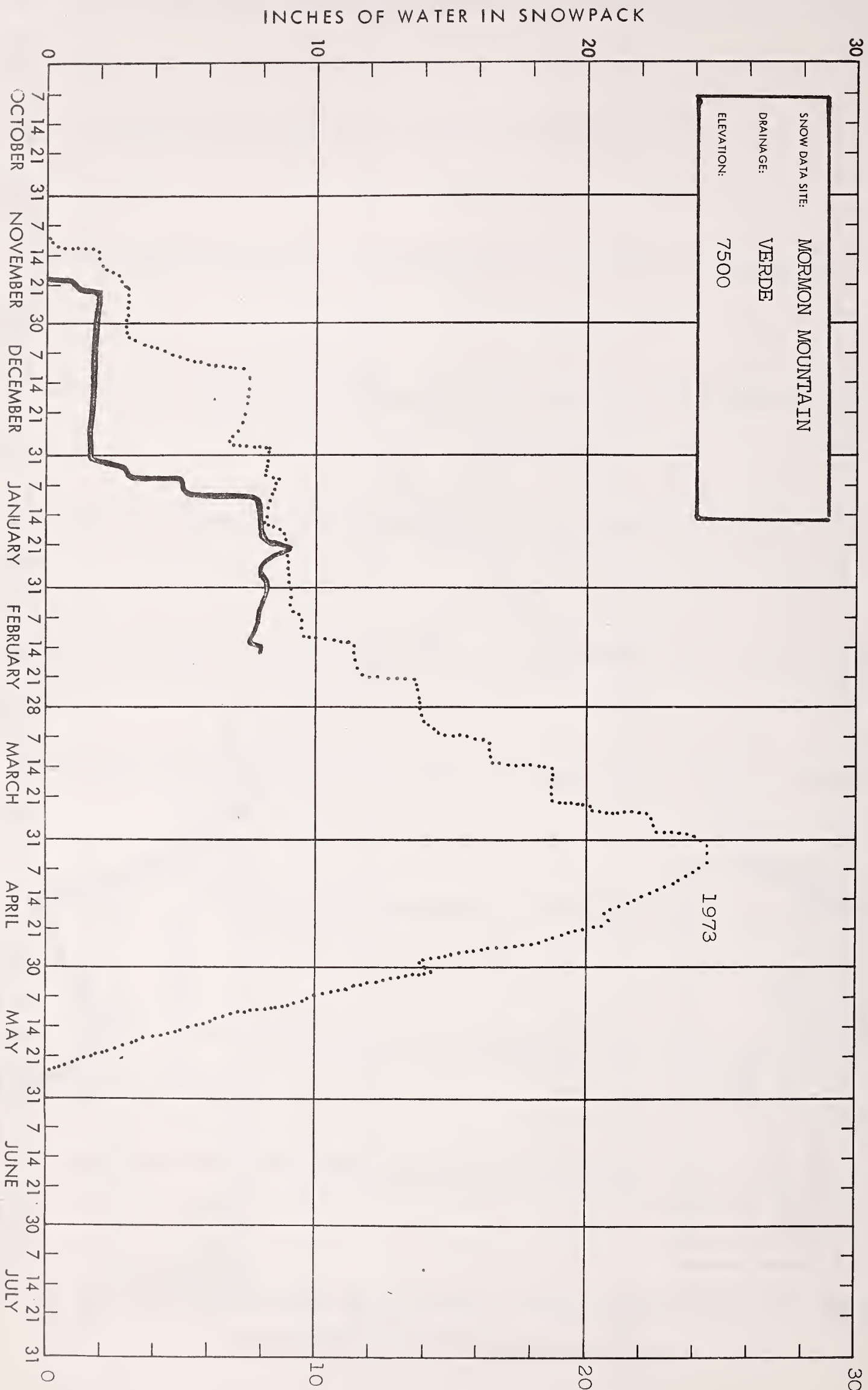
SNOW PILLOW DATA
1974

SNOW DATA SITE: BAKER BUTTE
DRAINAGE: VERDE
ELEVATION: 7300

INCHES OF WATER IN SNOWPACK



SNOW PILLOW DATA 1974



PRECIPITATION (Inches)

ABOUT FEBRUARY 15, 1974

PRECIPITATION (Inches)		ABOUT FEBRUARY 15, 1974			FROM APPROX. NOV. 1 TO DATE		
DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION			This Year	Average †	Percent of Average
		Date of Reading	Month's Precipitation	Average †			
<u>GILA RIVER</u>							
Silver Creek Divide	9000	2/12	.10	1.08*	5.68	10.74*	53
Hannagan Meadows **	9030	2/14	.20	1.04	6.96	9.54	73
Frisco Divide **	8000	2/14	0	----	4.03	----	---
<u>SALT RIVER</u>							
Canyon Point	7600	2/13	0	1.26*	13.05	12.24*	107
Hannagan Meadows **	9030	2/14	.20	1.04	6.96	9.54	73
Little Wildcat (Heber Snow Course)	7600	2/13	0	1.08	10.85	10.42	104
Maverick Fork	9050	2/13	.05	1.03	8.81	8.98	98
Workman Creek **	6970	2/13	0	1.41	10.35	12.87	80
Wilson Lake	9100	2/14	.12	1.15*	8.42	9.33*	90
<u>VERDE RIVER</u>							
Baker Butte	7300	2/14	.11	1.43*	11.59	12.52*	93
Copper Basin Divide	6720	2/14	0	1.15*	6.94	7.93*	88
Fort Valley **	7350	2/14	.05	.80	5.11	6.22	82
Happy Jack **	7480	2/14	.02	1.11	7.90	7.99	99
Mingus Mountain	7660	2/14	.20	1.15	6.70	6.71	100
Mormon Mountain	7500	2/14	.30	1.49*	10.80	11.66*	93
White Horse Lake Jct.**	7150	2/14	0	----	7.77	----	---
<u>LITTLE COLORADO</u>							
Inner Basin #1	9830	NO SURVEY		1.32	---	11.51	---
Inner Basin #2	10050	NO SURVEY		1.41*	---	13.26*	---
Greer Lakes	8500	---	---	.84	---	5.14	---
Little Wildcat (Heber Snow Course)	7600	2/13	0	1.08	10.85	10.42	104
Sheep Crossing (Baldy Snow Course)	9125	2/13	0	.96	8.07	8.71	93
† 1958-72 Average * Adjusted Average ** Data Supplied by U.S. Forest Service							
- 14 -							

PRECIPITATION AT SELECTED ARIZONA STATIONS 1/

STATION	Precipitation (Inches)	
	MONTH: JANUARY	PERIOD: NOVEMBER THROUGH JANUARY
Alpine	2.18	2.77
Ash Fork	1.60	1.60
Clifton	.90	1.45
Douglas	1.28	1.36
Flagstaff WSO*	3.63	5.65
McNary	5.35	8.67
Payson Ranger Station	3.19	5.01
Phoenix WSFO **	.57	1.93
Prescott (City)	2.09	3.09
Springerville	.20	.20
Tucson WSO*	.93	1.93
Winslow WSO*	.84	1.77
Yuma WSO*	.64	.69

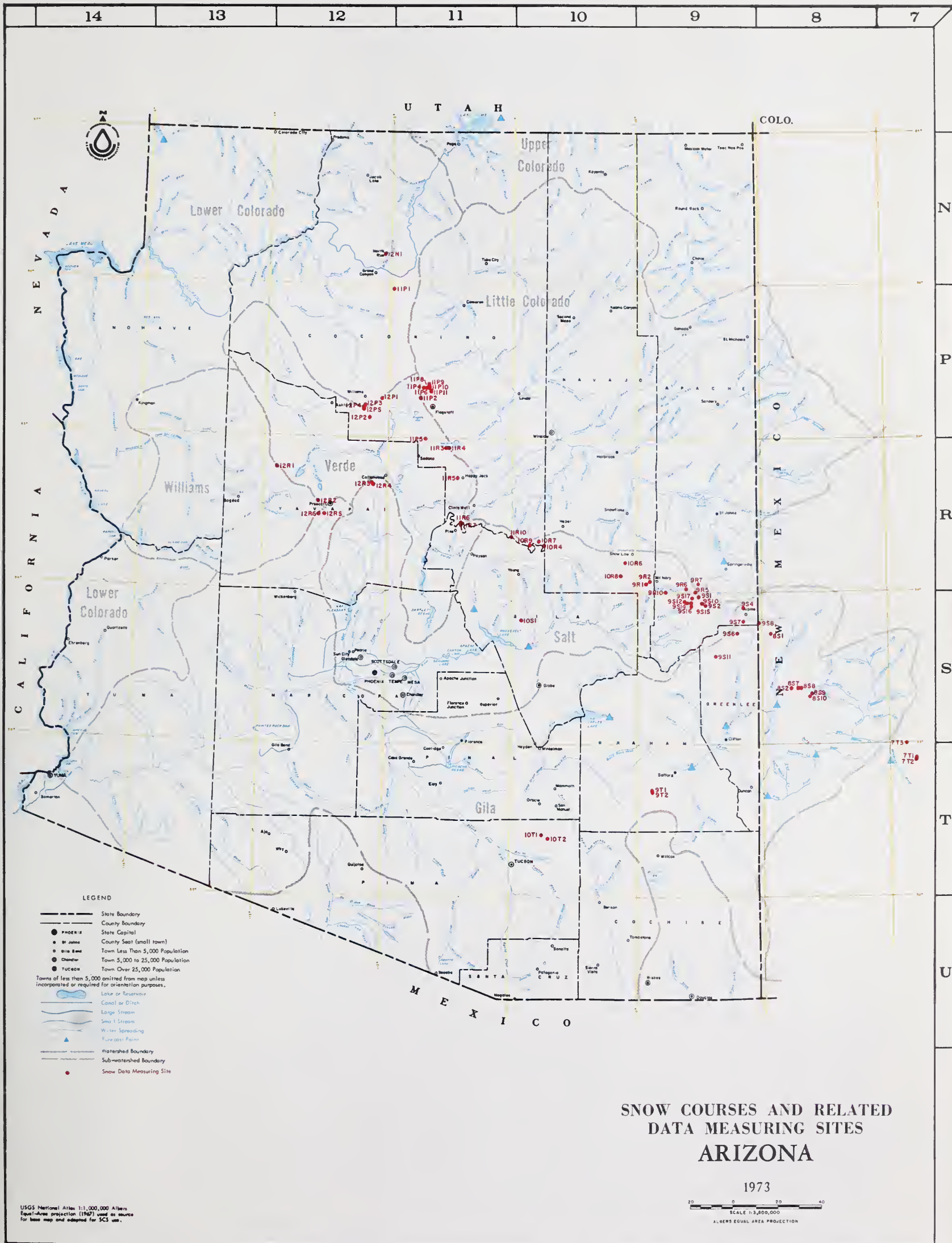
1/ Data and Analysis furnished by National Weather Service, Phoenix, Arizona

WSO* Weather Service Office

WSFO* Weather Service Forecast Office

SOIL MOISTURE ABOUT FEBRUARY 15, 1974

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †
<u>GILA RIVER</u>							
Frisco Divide	8000	48	13.3	2/14	6.4	14.2	10.0
<u>SALT RIVER</u>							
Black River Divide	9100	48	16.8	2/13	14.3	18.0	16.4
Canyon Creek	7500	48	18.3	2/13	17.1	17.4	16.0
Corduoy Creek	6000	36	13.5	2/14	7.6	13.8	9.4
McNary	7200	48	16.3	2/14	13.7	17.9	15.2
<u>VERDE RIVER</u>							
Mormon Mountain	7500	48	16.1	2/14	14.0	17.8	15.9
Newman Park	6750	48	17.7	2/14	11.5	19.5	17.3
† 1958-72 15-year average							
- 16 -							



INDEX to SNOW COURSES and SOIL MOISTURE STATIONS

NUMBER	NAME	SEC.	TWP.	RGE.	ELEV.	DRAINAGE	OBSERVER	RECORD BEGAN
11P10A	Agassiz	32	23N	7E	11200	Little Colorado	SCS-C.F.*	1968
11R7	Baker Butte #2	9	12N	9E	7700	Verde	SCS	1971
11R6PSP	Baker Butte	4	12N	9E	7300	Verde	SCS	1966
9S1APSP	Baldy	28	7N	27E	9125	Little Colorado	SCS	1950
9S15	Baldy #2	12	6N	26E	9750	Little Colorado	SCS	1963
9S16	Baldy #3	13	6N	26E	10950	Little Colorado	SCS	1963
10T1	Bear Wallow	6	12S	16E	8100	Gila	FS	1948
9S6	Beaver Head	13	4N	30E	8000	San Francisco	FS	1938
12P5	Bill Williams Intermediate	17	21N	2E	8550	Cataract	FS	1967
12P4	Bill Williams Summit	17	21N	2E	8950	Verde	FS	1967
9S10m	Black River Divide	10	6N	27E	9400	Salt	SCS	1954
12N1	Bright Angel	34	33N	3E	8400	Bright Angel Creek	NPS	1947
12R1	Camp Wood	3	16N	6W	5700	Verde	FS	1946
10R7M	Canyon Creek #2	18	11N	15E	7500	Little Colorado	SCS	1958
10R9P	Canyon Point	28	11N	14E	7600	Salt	SCS	1967
12P1M	Chalender	27	22N	3E	7100	Verde	FS	1947
9R7	Cheese Springs	28	8N	27E	8600	Little Colorado	SCS	1969
12R6P	Copper Basin Divide	23	13N	3W	6720	Verde	SCS	1963
10R8m	Corduoy Creek	4	8N	21E	6000	Salt	SCS	1954
9S7	Coronado Trail	26	5N	30E	8000	San Francisco	FS	1938
9T2A	Crazy Horse	34	8S	24E	10200	Gila	FS	1963
11P11a	Doyle Saddle	4	22N	7E	10900	Little Colorado	SCS	1968
7T1	Emory Pass #1	16	16S	9W**	7800	Mimbres	SCS	1967
7T2	Emory Pass #2	16	16S	9W**	7800	Mimbres	SCS	1967
10R6	Forest Dale	2	9N	21E	6430	Salt	BIA	1939
9R5	Ft. Apache	18	7N	27E	9160	Little Colorado	SCS	1951
11P2P	Ft. Valley	22	22N	6E	7350	Little Colorado	FS	1947
8S1MP	Frisco Divide	31	6S	20W**	8000	San Francisco	FS	1938
12R4	Gaddes Canyon	11	15N	2E	7600	Verde	SCS	1954
11P1	Grand Canyon	21	30N	4E	7500	Hance Creek	NPS	1947
9S11P	Hannagan Meadows	19	3N	29E	9090	San Francisco	FS	1964
11R5P	Happy Jack	30	16N	9E	7630	Verde	FS	1951
9R10	Hawley Lake	13	7N	24E	8300	Salt	BIA	1966
10R4PSP	Heber	28	11N	15E	7600	Little Colorado	SCS	1950
9T1A	High Peak	34	8S	24E	10500	Gila	FS	1963
8S9A	Hummingbird	19	11S	17W**	10550	Gila	SCS	1964
11P9P	Inner Basin #1	28	23N	7E	10000	Little Colorado	C.F.*	1967
11P8P	Inner Basin #2	28	23N	7E	9750	Little Colorado	C.F.*	1967
12R2	Iron Springs	22	14N	3W	6200	Bill Williams	SCS	1946
9S2APSP	Maverick Fork	13	6N	27E	9150	Salt	SCS	1950
7S3A	McKnight Cabin	10	15S	10W**	9300	Mimbres	SCS	1967
9R2M	McNary	23	8N	23E	7200	Salt	BIA	1939
9R1	Milk Ranch	33	8N	23E	7000	Salt	BIA	1941
12R3	Mingus Mountain	3	15N	2E	7100	Verde	SCS	1947
8S2	Mogollon	2	11S	19W**	7000	San Francisco	SCS	1953
11R4	Mormon Lake	13	18N	8E	7350	Little Colorado	SCS	1947
11R3MAPSP	Mormon Mountain	14	18N	8E	7500	Verde	SCS	1950
9S12A	Mt. Ord	4	6N	26E	11200	Salt	SRP-SCS	1966
11P5M	Newman Park	25	19N	6E	6750	Verde	SCS	1963
9S4	Nutriso	23	6N	30E	8500	San Francisco	FS	1938
11R10	Promontory Butte	5	11N	13E	7930	Little Colorado	SCS	1973
8S7	Redstone Trail	5	11S	18W**	8600	San Francisco	SCS	1961
10T2	Rose Canyon	15	12S	16E	7300	Gila	FS	1948
8S8P	Silver Creek Divide	4	11S	18W**	9000	San Francisco	SCS	1964
9S14A	Smith Cienega	10	6N	26E	10050	Salt	SRP-SCS	1966
11P4	Snow Bowl #1	36	23N	6E	10260	Verde	FS	1961
11P6	Snow Bowl #2	31	23N	7E	11000	Verde	FS	1965
9S8	State Line	6	6S	21W**	8000	San Francisco	FS	1938
9S17	Sunrise Summit	36	7N	26E	10600	Salt	SCS	1972
12P2P	White Horse Lake Jct.	2	20N	2E	7180	Verde	FS	1967
12R5	White Spar	19	13N	2W	6000	Verde	SCS	1963
8S10A	Whitewater	19	11S	17W**	10750	Gila	SCS	1964
12P3	Williams Ski Run	9	21N	2E	7720	Cataract	FS	1967
9R6P	Wilson Lake	4	7N	26E	9000	Salt	SCS	1966
10S1P	Workman Creek	33	6N	14E	6900	Salt	FS	1952

A Aerial Snow Depth Marker
a Aerial Snow Depth Marker Only

M Soil Moisture Station
m Soil Moisture Station Only

P Precipitation Storage Gage
SP Snow Pressure Pillow.

** NM Principal Meridian
* City of Flagstaff

The Following Organizations Cooperate in the Arizona Snow Survey Work

FEDERAL

- Department of Agriculture
 - Soil Conservation Service
 - Forest Service
 - Apache Forest
 - Coconino Forest
 - Coronado Forest
 - Gila Forest
 - Kaibab Forest
 - Prescott Forest
 - Rocky Mountain Forest and Range Experiment Station
 - Tonto Forest
- Department of Commerce
 - NOAA, National Weather Service
- Department of Interior
 - Bureau of Reclamation
 - Region 111
 - Geological Survey
 - Arizona District
 - New Mexico District
 - Bureau of Indian Affairs
 - Fort Apache Reservation
 - San Carlos Irrigation Project
 - National Park Service
 - Grand Canyon National Park
- Gila Water Commissioner
 - Safford, Arizona

STATE

- Arizona Game and Fish Department
- Arizona State Parks Board
- University of Arizona
 - Arizona Agricultural Experiment Station
 - Water Resource Research Center
 - Department of Watershed Management

MUNICIPAL

- City of Flagstaff

IRRIGATION PROJECTS

- Salt River Valley Water User's Association
 - Phoenix, Arizona
- San Carlos Irrigation and Drainage District
 - Coolidge, Arizona
- Maricopa County Municipal Water Conservation District

PRIVATE

- Southwest Forest Industries, Inc.
 - McNary, Arizona
- Fort Apache Indian Reservation
 - White Mountain Recreation Enterprises

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROOM 6029 FEDERAL BUILDING
PHOENIX, ARIZONA 85025

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE

AGR-101



FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*